

Abstract of the Disclosure

In an OFDM-based receiver, means for achieving time synchronization comprising: A. means for extracting pilot signals contained in the OFDM received signal; B. means for analyzing the pilot signals in the frequency domain and for issuing a signal indicative of a synchronization error in the received signal; C. means for correcting the synchronization error responsive to the signal indicative of the synchronization error. In an OFDM-based receiver, automatic frequency correction means in a subscriber unit comprising: A. an inner frequency correction loop for generating a LO frequency related to a frequency of a received signal; B. an outer frequency correction loop for correcting the LO frequency according to instructions received from a base station. In an OFDM-based receiver, a channel sounder comprising: A. means for extracting pilot signals contained in the OFDM received signal; B. means for analyzing the pilot signals in the frequency domain and for issuing signals indicative of a distortion in each pilot signal, wherein each of said pilot distortion signals comprises both an amplitude and a phase component; C. means for analyzing the signals indicative of a distortion in each pilot signal and for computing therefrom corrective signals for correcting distortions in the received signal.

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